<Look into the Future>

# DAS-M44HD-CI-CAN

DAS®

Diversity Autoscan System

## *INSTALLATION AND USER'S GUIDE*

DVB T CE e RoHS Compliant

# INSTALLATION AND USER'S GUIDE – DAS M44HD-CI-CAN

## *Warnings: Important Safety Instructions and Caution*

Please read all of these instructions regarding your unit and retain them for future reference

- Read this manual fully and carefully before operating DAS digital receiver
- Keep this manual handy as a reference for operating procedure and safety information
- Pay close attention to all warnings and follow the instructions carefully
- Do not allow other people to use the system until they have read and understood the operating instructions.
- Do not push objects of any kind into this product through openings as they may touch dangerous voltage points or short- out parts that could result in a fire or electronic shock

1) Don't use or perform any function while driving
   This could cause accident, endangering both your safety and the safety of others; always observe safe driving rules and follow traffic regulations. If prolonged intervention on the unit is necessary, stop the vehicle in a safe place and make adjustments.
2) Video output
   For your safety, ensure that the DRIVER monitor is connected to the video OUT DRIVER.
   If the connection to the handbrake and the menu settings have been done properly, the Video DRIVER will only work with the handbrake on and therefore only with the vehicle still.
   Viewing images while driving is forbidden and dangerous!
   See pag.5 for handbrake setting.
3) Check for correct power supply
4) Don't disassemble, tamper with or attempt to repair any part of the product
   Any such actions will immediately void the warranty and may lead to damage, accidents or injury.
5) High temperature and humidity may compromise operations
   Do not expose the unit to rain and moisture
   If any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
6) The unit must be installed by experienced personnel only
7) Wrong wiring may cause problems to the vehicle as well as damage, accidents and injury
   Do not attempt to install or service your DVB-T receiver by yourself.
   Do not install the unit where it may:
   1) Obstruct the driver's attention;
   2) Impair the performance of any of the vehicle's operating systems or safety features including airbags, hazard lamp buttons etc;
   3) Impair the driver's ability to safely operate the vehicle.
8) Before wiring, disconnect the cable from the negative battery terminal
9) Don't use bolts or nuts in the brake or steering systems to make ground connections
10) Arrange the wiring so it is not crimped or pinched by a sharp metal edge
11) Connect and use only very good quality antennas

## WHAT IS DAS

DAS system analyzes and scans automatically the TV channels frequencies by eliminating the manual procedures normally used. DAS allows to get the best reception of the signal during a journey.

Using the RDS system combined to digital signal (DVB-T), DAS changes automatically the frequency of the TV channel avoiding the waiting to receive the new signal

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| PART NUMBERS | | |
|---|---|---|
| | A | DAS-M44HD-CI-CAN |
| | B | DCAB6P |
| | C | DCABRCA |
| | D | DRCV1 |
| | E | DTELSE |
| | F | DCABFO |
| | | |
| | | |
| | | |

# Installation

Install DAS DVB-T receiver with ALL 4 antennas.

Connect the 4 antennas to the receiver before switching the unit on, but pay attention NOT TO FIX immediately the antennas on windows or any other inside part (provided it's not metal) until you have found the proper location, as shielded glasses can strongly influence reception.

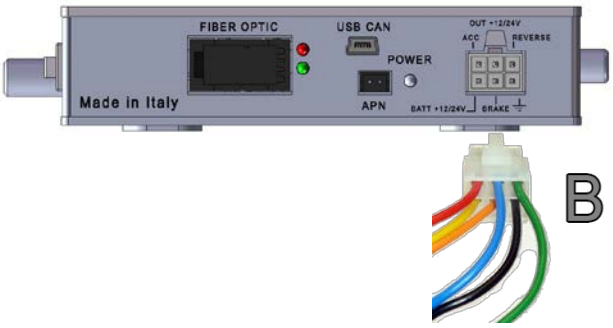
To find best suitable mounting position use the function on remote control "MENU 1-2-3" as shown at page 11.

Only when a suitable position is found, carefully fix the 4 antennas and route the antennas cables accordingly. It would probably need to try some mounting positions to determine which one provides the strongest signal in your vehicle.

## *Connections*

### *Power*

M44HD-CI–CAN – power supply side

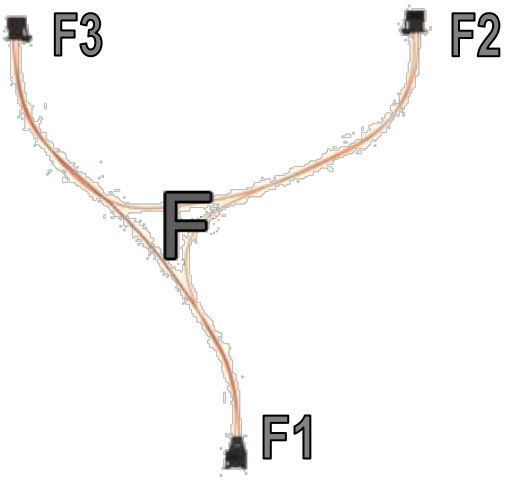



- Yellow → Battery +12V/24V
- Red → ~~Acc (ignition)~~ – DO NOT CONNECTED (see note below)
- Orange → Parking Brake
- Black → Ground
- Green → Reverse Gear
- Blue → Out +12/24V

| | |
|---|---|
| Ignition | The RED wire must be disconnected, because the switch ON/OFF of the receiver is directly controlled by the Fiber Optic activity. |
| Reverse Gear | The device can be used with a reverse video camera (not included)<br>To see the video camera image shown on DRIVER monitor, the GREEN wire or the power cable must be connected to a +12V signal activated by reverse gear |
| Handbrake | For safety reason the DRIVER's monitor will not work while vehicle is moving;<br>It's mandatory to connect the ORANGE wire of the power cable to a +12V signal activated by handbrake. |

## *Fiber Optic*

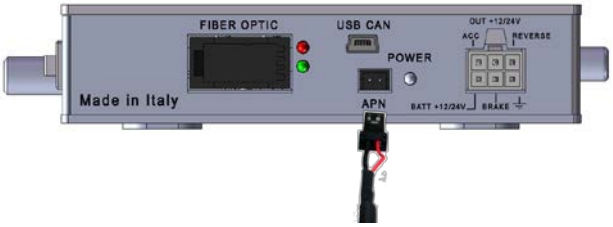
M44HD-CI–CAN – power supply side




Disconnect the original fiber optic cable from one of the original multimedia accessories inside the vehicle (DVD, GPS, Amplifier, etc…) and match it directly to the female connector of the fiber optic cable on equipment (F1).
Then match the two other connector F2 and F3 respectively inside the DAS receiver (see picture) and to the original fiber optic accessory of the vehicle.

## *APN*

M44HD-CI–CAN power supply side




APN input is dedicated to the IR Optional Integration Head Unit command.

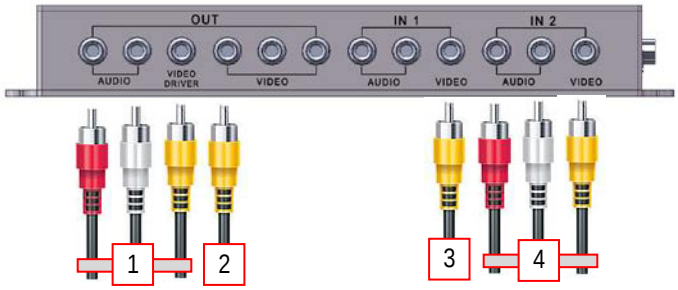
## *USB CAN*

M44HD-CI–CAN power supply side

USB CAN input is dedicated to the upload of the firmware for a specific model of car.
To upgrade the firmware in the correct way please download the Installation Guide at the following link
http://www.dasdvbt.com/ita/software.php
At the same webpage are also available the specific installation and user's manuals for the compatible vehicles.

## *Panel IN-OUT*

M44HD-CI-CAN – In-Out Panel with RCA

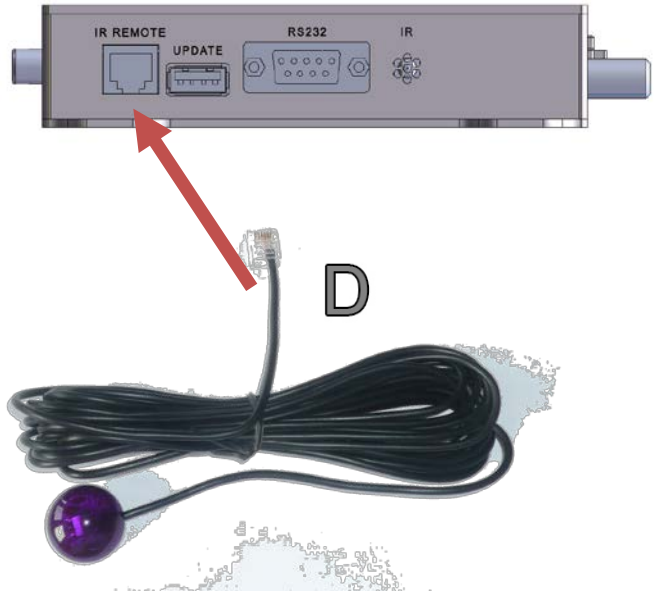



1) Audio Out R - red RCA I
   Audio Out L - white RCA I-----→ radio HU or monitor
   Video Out drive – yellow RCA I
2) Video Out 1 - yellow RCA I-----→ front Video Output
3) Aux 2 Video - yellow RCA I-----→ Camera IN
4) Aux 1 Audio R – red RCA I
   Aux 1 Audio L – white RCA I-----→ external device (i.e. DVD)
   Aux 1 Video – yellow RCA I

WARNING!!!
For the VIDEO connections make reference to the installation manuals for specific Auto-maker and model of car available at the following link http://www.dasdvbt.com/ita/software.php

## *IR Infrared receiver for remote control*

M44HD-CI–CAN – signal side



## Remote Control Operations

- Power button
  Button to switch- ON and OFF the receiver

- Arrow and
  - Buttons used to move onto the right and left directions inside the menu and the 2 different TV list;
  - Buttons used for zapping

- Arrow and
  - Buttons used to enter inside the “TV list” and inside “Memo TV Channels List”;
  - Buttons used to browse up and down inside the 2 TV list and inside the different menus

- OK / MENU button
  - Button used to select and confirm a choice or to enter inside the configuration menu setting.

- Numerical buttons.
  - Buttons used to memorized and change the TV channel

- TV/AV button
  It allows to select an external AV output (i.e. DVD)

- Button + / -
  Volume up and down

- TX button
  The buttons is used to select subtitles function (where available)

- DAS button
  Radio e Pay TV functions

### *Remote Control Battery Installation*

Before attempting to operate your remote control, check battery and in case install a new as described below:

1) Turn the remote control face down.
2) Press down on the ridged area of the battery cover and slide it off
3) Slide another battery in (mod.CR2025 o CR2032)

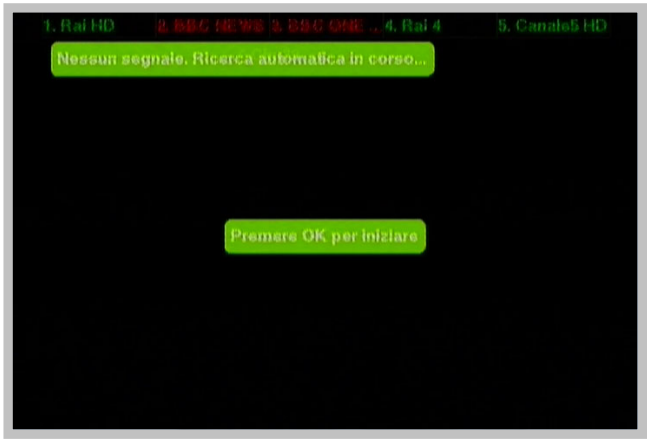
## Start and Antennas installation

Connect the 4 antennas to receiver but DO NOT fix them yet at windows (use first function “MENU 1-2-3” at page 11 to find right location)

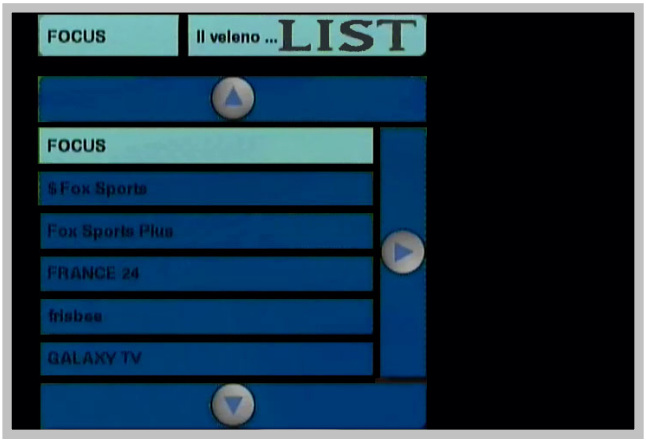
We recommend to use a very good quality antennas because they can grant a better reception of the signal TV suitable to DAS receiver; poor or medium quality antennas can strongly affect the reception of the signal and therefore the performance of the unit.

DAS is a receiver with 4 antennas, 3 assigned to the reception of the TV channels and 1 assigned to the *autoscan* and to the update in real time of the dynamic “TV list”.

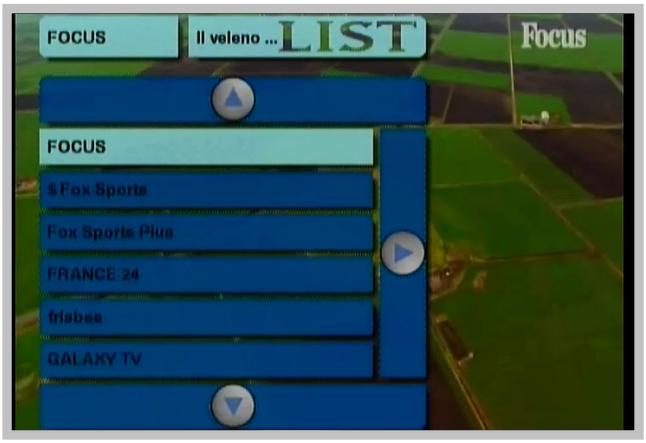
- Antenna 1 RDS autoscan and update of the “TV list”
- Antennas 2-3-4 reception of the TV channels.
- Antennas 1-2-3-4 with stand-by scan function: the “TV list” is updated with all 4 antennas



- Once scan is completed push OK/Menu button




- Select a TV channel (using arrow UP and arrow down ) with a good reception and push button OK/Menu : The TV channel will be showed on the screen.




Once the TV channel is well visible, push **"MENU 1-2-3"**; this function is essential to install the 4 antennas inside the vehicle because it guides to find the best place where fix the antennas to get a better reception of the signal.

- We recommend to install the 4 antennas in the 4 sides of the vehicle (horizontal or vertical) avoiding metal edges and avoiding shielded windows.

After pressing "MENU 1-2-3" On the screen 4 bars appear (1 for each antenna).

The movement of the bar highlights the power of the signal with the related reception; major is the level of the bar, better is the place of the signal reception where positioning the antennas.

- Install each antenna taking care of the level signal of the bar.

To exit from antenna menu push OK / Menu

## *Settings Configuration Menu*

Inside this menu there are the settings of receiver and some functions useful for end user.

- Push OK/Menu button

In the next screenshot all functions and features of the product will be showed.

Use arrows and to browse up and down
Use arrows and to move on the left and the right side and enter inside the sub-menus

To exit from configuration menu push OK/Menu button or

- Languages
  Select the language
- Screen
  Select the screen in 4/3 or 16/9
- Video output
  Select if the video is in PAL or NTSC

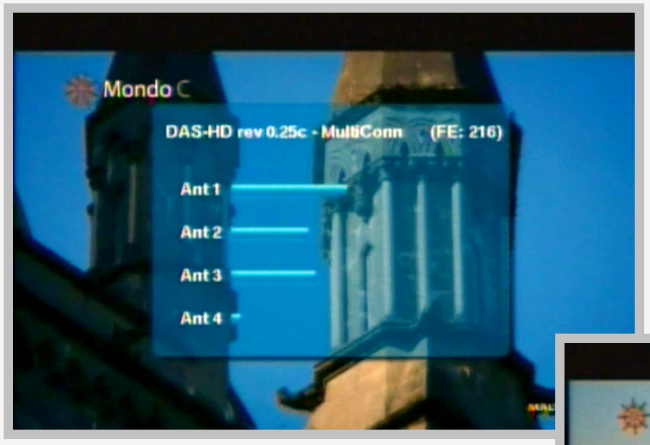
- Info time duration
  Selecting the duration time it's possible to choose the time of the screenshots or messages showed on the monitor
- Stand-by Scan
  This is an essential feature to update automatically the "TV list".
  Selecting this option, when the vehicle is turned-off or when the receiver is in stand-by, DAS is ON and it will use the 4 antennas in autoscan version to scan the frequencies and automatically update all TV channels inside the "TV list".
  In this case the "TV list" is always updated.
  For this function DAS unit has a consumption power is 500mA and it will take about 10 minutes. When Autoscan is completed the unit will switch OFF automatically.
  Select NO to disable this function.
- Memo signal
  To perform at its best, DAS needs to have the TV channels memorized.
  Each time a non-memorized channel is showed on the screen, DAS reminds the end user with a signal to memorize the TV channel.
  Select NO to disable this function.
- TV channel bars
  This feature allows to end-user to understand in real time if a TV channel is available at that time inside the TV list, provided that this channel has been previously memorized.
  This function works with memorized TV channels.
  The 2 superimposed TV channels bars (1 on the upper side of the screen, the other one on the bottom side) also display the 10 memorized TV channels while watching a TV program.
  End-user can choose if having these bars shown on the edge of the screen or not.
- Nation
  In Europe is preferable to use the standard "Europe"
- RESET
  This function is used to reset the system to default factory settings

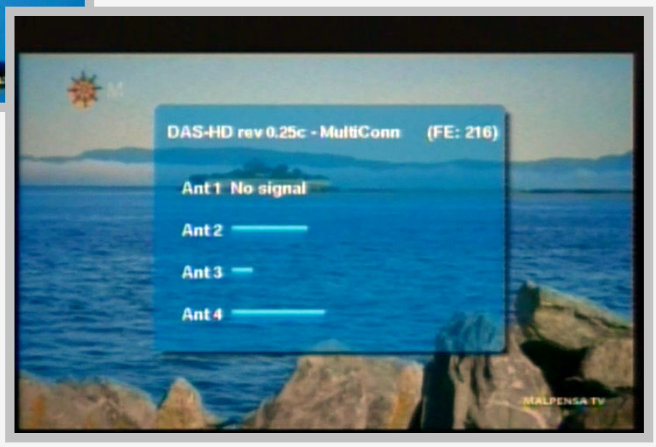
## Antennas Status and Check

The antennas are essential for the reception of TV signal and it is therefore very important to check and verify their functionality over time.

- While watching a TV channel, press "Menu 123"
- If the 4 bars are similar, this means that the antennas are working correctly

- If 1 or more bars are significantly scarce, this means that the antennas have deteriorated and need to be replaced



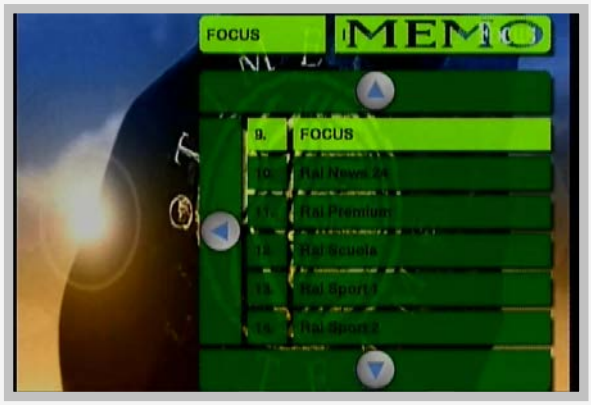
## TV List and Memo TV Channel List

DAS system allows to get 2 different TV lists:

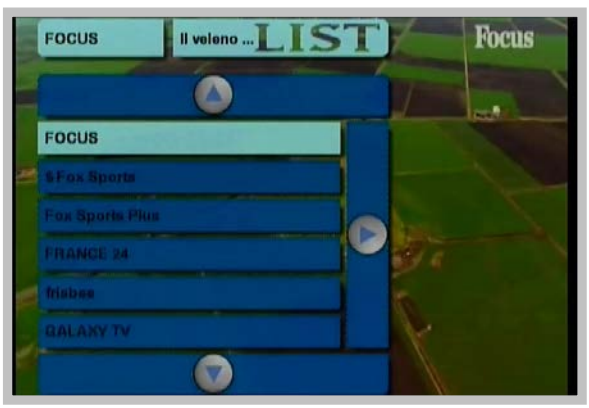
1. The "TV List" is controlled directly by antenna no. 1.

- This list is automatically updated in real time and it works like frequency auto scan.
- This list is also strictly linked to the "memo TV channel list" to grant the better function of RDS system combined to digital broadcast (DVB-T).
- This list is also updated in real time by all 4 antennas if the function "Stand-by scan" is activated.

2. The "Memo TV Channel List" is controlled directly by antennas no. 2-3-4.




It allows to store the TV channel in the desired position and it strictly connected to the auto-scan made by antenna no.1




- Push ▲ or ▼ to enter inside the 2 lists
- Push ◄ or ► and select what kind of list is interested in
- Push ▲ or ▼ to browse the TV channels available inside the list
- Push OK/Menu to watch the selected TV channel

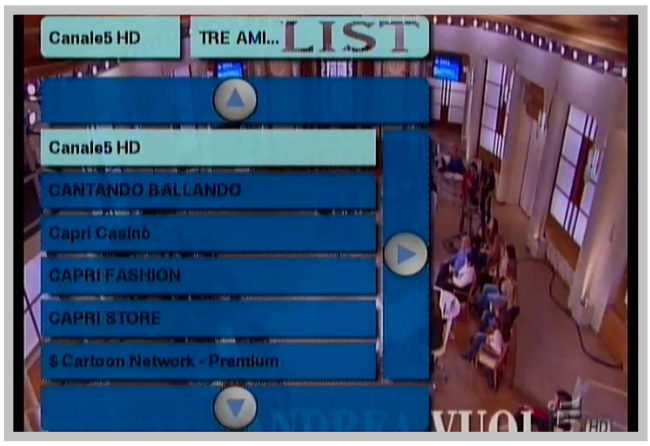
## Memorize TV Channel

DAS system is the real heart of auto-scan technology: the searching of the TV channels and the related frequencies is made automatically and no manual intervention is needed.
The storage /memorization of the TV channels is essential to ensure the best performance of the receiver.

- Push button or and enter inside the TV lists

Inside the menu there are 2 pages containing the "TV List" and the "Memo TV Channel List";
push button or to change the page and select the related TV list.
The 2 TV lists have 2 different colours to avoid misunderstandings.

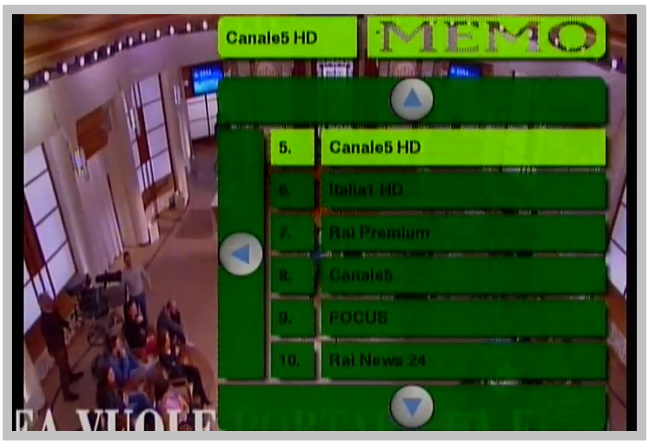
- Select "TV list"
- Browse or to reach the desired TV channel
- Push button OK/Menu to confirm




Now the selected TV channel is showed on the screen.

- To memorize keep push at least 2 seconds a numerical button (for ex button no.5): the TV channel will be memorized automatically at position no.5

The TV channel will be included inside the “Memo TV channel list” at position no. 5




- If the “TV channel bars” has been selected, the TV channel appears also at position no.5 of the TV channel bar showed on the screen.

- Repeat this procedure to store all the other TV channels.

## Change TV Channel

To change the channel, just digit a key number of a stored channel: for example by pressing 31, the channel stored at position 31 of the "MEMO TV channel list" is selected and displayed on screen.

If you want to instead display a TV channel that is not memorized you must enter the "TV List" and select the desired TV channel.

After 40 seconds of continuous viewing a flash appears on the screen.
This flash warnings the user that the channel has not been stored; 4 seconds after this warning disappears from the screen

After 1 minute there is a second reminder combined with an audible warning that alerts the user to save the current channel.

After 4 seconds, this alert will disappear from the screen.

This notice can be disabled from the configuration menu.

## Zapping

While viewing a TV channel, to have a quick zapping, simply press or to display the next or previous channel to the current channel you are watching.

## Upgrade via USB

SW upgrades are periodically released: It is recommended after installation to check the SW loaded on the receiver if it is updated to the latest release.

To verify, log on http://www.dasdvbt.com/software.php

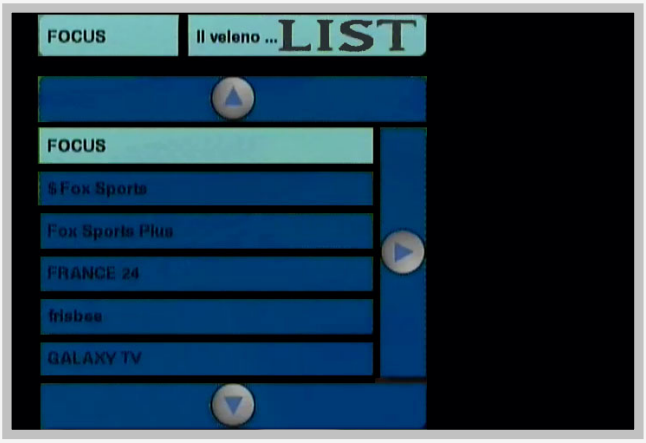
- Check the SW on the receiver using the function "menu 123"
- On Top it shows "DAS rev. 0.xxx "
- Check if the revision number is the same as that one shown online.

- If it is not the same, download the latest SW (present in a compressed mode) and copy on a USB stick (FAT32 formatted) after decompressed – Note: only the file decompressed can be used
- Insert the USB key into its connector with receiver OFF
- Turn ON the receiver: a confirmation request to load the new software will be shown on screen
- Confirm Upgrade and wait its conclusion

It is MANDATORY NOT to turn off the receiver and/or NOT to remove the USB key until the update is completed; otherwise the piece will be damaged

## PAY TV

At first activation for the proper and correct operation, plug the Cam and the respective card when a pay channel has already been selected from the "TV List"




Suitable for the only models designed for this mode (CI option)

- Insert the CAM and CARD slot in the receiver,
- Wait and verify the correct operation of the Pay TV by selecting the pay channels in the "TV List".

## Trouble shooting Q & A

Most of the troubleshooting issues can be easily solved.
The common cases and their solutions are listed in the below table.

| PROBLEM | POSSIBLE REASON | SOLUTION |
|---|---|---|
| No picture, no sound | The power cable is not properly inserted into the unit | Check the power wire connection.<br>Refer to manual at pag.5 |
| | The orange or green wires are wrongly connected | |
| | Audio/video input not connected | |
| | The unit is not switched ON | |
| | The unit is in stand-by mode | Check if the led is RED on the unit and press “POWER” button |
| | The unit is in AV1 or EXT source | Push the button on remote control TV/AV and check the status of the unit. Select the TV function |
| | The Fuse crimped on yellow wire is burned out. | Change the fuse |
| The remote control does not work | No power | Check the remote battery |
| | | Remote battery life is over. Replace it |
| | | Remote battery is inserted wrongly.<br>For proper insertion refer to the manual on page 8 |
| | No “line-of sight” between unit and controller | Ensure there is no obstacle between the controller and the unit or light of neon lamp |
| The unit does not respond to remote control commands | No power | Check the remote battery |
| | Power supply cut during upgrade | Unit damaged.<br>To be returned to assistance desk |

| PROBLEM | POSSIBLE REASON | SOLUTION |
|---|---|---|
| In DVB-T mode, the number of channels is not as much as expected | The number of available channels is limited due to the local broadcasting system. The availability of the channels may vary depending on the area | Perform “StandBy-Scan” mode to rescan the channels.<br>Refer to manual at pag.12 |
| | The signal quality of some channels TV is too low | Use active antennas of high quality to improve reception quality. |
| | | Check working status of antennas by pressing MENU 1-2-3 and control bars’ strength.<br>If 1 or more bars have a low level or there is the warning “no signal”, disconnect and connect again the antenna and check in real time the status of the bar.<br>Refer to manual at pag.13 |
| | | Check a better location for the antennas. If necessary invert the position of the antennas on the unit.<br>Shielded glasses compromise the reception.<br>If necessary install the antennas inside the bumpers of the car.<br>Use function “MENU 1-2-3 to find the good position and fix the antennas anew.<br>Refer to manual at pag.10 |
| | Some TV channels are not available | Only free TV channels are available. Pay TV channels are visible only if you have CI option. |
| | | Only the locally free TV channels can be seen. They can differ depending on the area.<br>Refer to manual at pag.15 |

| PROBLEM | POSSIBLE REASON | SOLUTION |
|---|---|---|
| All channels show no signal or random mosaic tiles appear on display | The signal quality of some channels TV is too low | Use active antennas of high quality to improve reception quality |
| | | Check working status of antennas by pressing MENU 1-2-3 and control bars strength.<br>If necessary invert the position of the antennas on the unit.<br>Refer to manual at pag.13 |
| | | Check the connection of the antennas |
| | | Check a better location for the antennas. Shielded glasses compromise the reception.<br>Use function “MENU 1-2-3 to find the good position and fix the antennas anew.<br>Refer to manual at pag.10 |
| | Antennas are not properly connected | Check the connection of antennas and check the status with menu 1-2-3 |
| | No DVB-T service is provided in that area. The area is not digitalized | It is not possible to watch/listen digital TV/radio in an area non covered |
| The video is fine but there is no sound | The volume is too low | Press vol + to raise the volume |
| | The audio is mute | Press vol + to raise the volume |
| | | The receiver in MPEG4 does not support Dolby Digital audio AC3 |
| The quality of the picture is white and black and not coloured | Tolerances of electronic components between DAS product and the screen | Change the screen or take another DAS tuner. |
| The DAS tuner doesn’t memorize the settings | The 12V of the battery is missing on yellow wire | The yellow wire must have always the +12V; check the status of the power. |
| The rear camera is not visible | The signal of the rear camera is not connected or the signal polarity is inverted | Connect the green wire and check the polarity; refer to manual at pag.5 |

| PROBLEM | POSSIBLE REASON | SOLUTION |
|---|---|---|
| There are 2 grey bars on the 2 edges on the screen | The 2 bars of stored channels have been activated from configuration menu | Deactivate the 2 bars from menu:<br>Refer to manual at pag.12 |
| Loss of channels in “TV list” | Poor digitalized area | Please memorize the preferred channels |
| “Error” appears on the initialization mode | Unit damaged | Possible impact/crash suffered by receiver. |
| After having switched off the car the LED of antennas keep on | The stand-by scan system is active | Deactivate the function on configuration menu.<br>Refer to manual at pag.12 |
| Memo signal while watching a channel from “TV list” | The channel has not been memorized in the MEMO TV channel list.<br>It advise users to do it | Deactivate the function from the configuration menu.<br>Refer to manual at pag.12 |
| The unit does not show PAY TV channels | The receiver is not CI version | The receiver without CI option does not support pay TV channel vision. |
| | The CAM module and CARD has not be inserted | Insert the cam and card |
| | The CARD is not habilitated on that channel vision | Replace the card with another one habilitated. The unit does not support CI+ card |
| | Incorrect configuration of the CAM | Take out CAM + card and insert them after having selected a pay TV channel from TV list |

If problem persists, please contact the dealer where you bought the unit for assistance.